

X(4020) $^\pm$ $I(J^P) = ?(?)$

OMITTED FROM SUMMARY TABLE

Seen by ABLIKIM 13X in $e^+e^- \rightarrow \pi^+\pi^- h_c$ at c.m. energy from 3.90 to 4.42 GeV as a peak in the invariant mass distribution of the $h_c\pi^\pm$ system. Needs confirmation.

NODE=M213

X(4020) $^\pm$ MASS

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
4023.9\pm2.4 OUR AVERAGE				
4026.3 \pm 2.6 \pm 3.7	0.4k	¹ ABLIKIM	14B BES3	$e^+e^- \rightarrow (D^*\bar{D}^*)^\pm\pi^\mp$
4022.9 \pm 0.8 \pm 2.7	253	ABLIKIM	13X BES3	$e^+e^- \rightarrow \pi^+\pi^- h_c$

¹ Neglecting interference between the X(4020) and non-resonant continuum. Assuming the same origin of the $(D^*\bar{D}^*)^\pm$ and $h_c\pi^\pm$ decay modes.

NODE=M213M

NODE=M213M

NODE=M213M;LINKAGE=A

X(4020) $^\pm$ WIDTH

<u>VALUE (MeV)</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>
10 \pm6 OUR AVERAGE Error includes scale factor of 1.7.				
24.8 \pm 5.6 \pm 7.7	0.4k	¹ ABLIKIM	14B BES3	$e^+e^- \rightarrow (D^*\bar{D}^*)^\pm\pi^\mp$
7.9 \pm 2.7 \pm 2.6	253	ABLIKIM	13X BES3	$e^+e^- \rightarrow \pi^+\pi^- h_c$

¹ Neglecting interference between the X(4020) and non-resonant continuum. Assuming the same origin of the $(D^*\bar{D}^*)^\pm$ and $h_c\pi^\pm$ decay modes.

NODE=M213W

NODE=M213W

NODE=M213W;LINKAGE=A

X(4020) $^\pm$ DECAY MODES

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 h_c\pi^\pm$	seen
$\Gamma_2 D^*\bar{D}^*$	seen

NODE=M213215;NODE=M213

X(4020) $^\pm$ BRANCHING RATIOS

<u>$\Gamma(h_c\pi^\pm)/\Gamma_{\text{total}}$</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	<u>Γ_1/Γ</u>
seen	253	ABLIKIM	13X BES3	$e^+e^- \rightarrow \pi^+\pi^- h_c$	

DESIG=1

DESIG=2

NODE=M213225

NODE=M213R01
NODE=M213R01

<u>$\Gamma(D^*\bar{D}^*)/\Gamma_{\text{total}}$</u>	<u>EVTS</u>	<u>DOCUMENT ID</u>	<u>TECN</u>	<u>COMMENT</u>	<u>Γ_2/Γ</u>
seen	0.4k	¹ ABLIKIM	14B BES3	$e^+e^- \rightarrow (D^*\bar{D}^*)^\pm\pi^\mp$	

¹ Neglecting interference between the X(4020) and non-resonant continuum.

NODE=M213R02
NODE=M213R02

NODE=M213R02;LINKAGE=A

X(4020) $^\pm$ REFERENCES

ABLIKIM	14B	PRL 112 132001	M. Ablikim <i>et al.</i>	(BES III Collab.)
ABLIKIM	13X	PRL 111 242001	M. Ablikim <i>et al.</i>	(BES III Collab.)

NODE=M213

REFID=55654
REFID=55635